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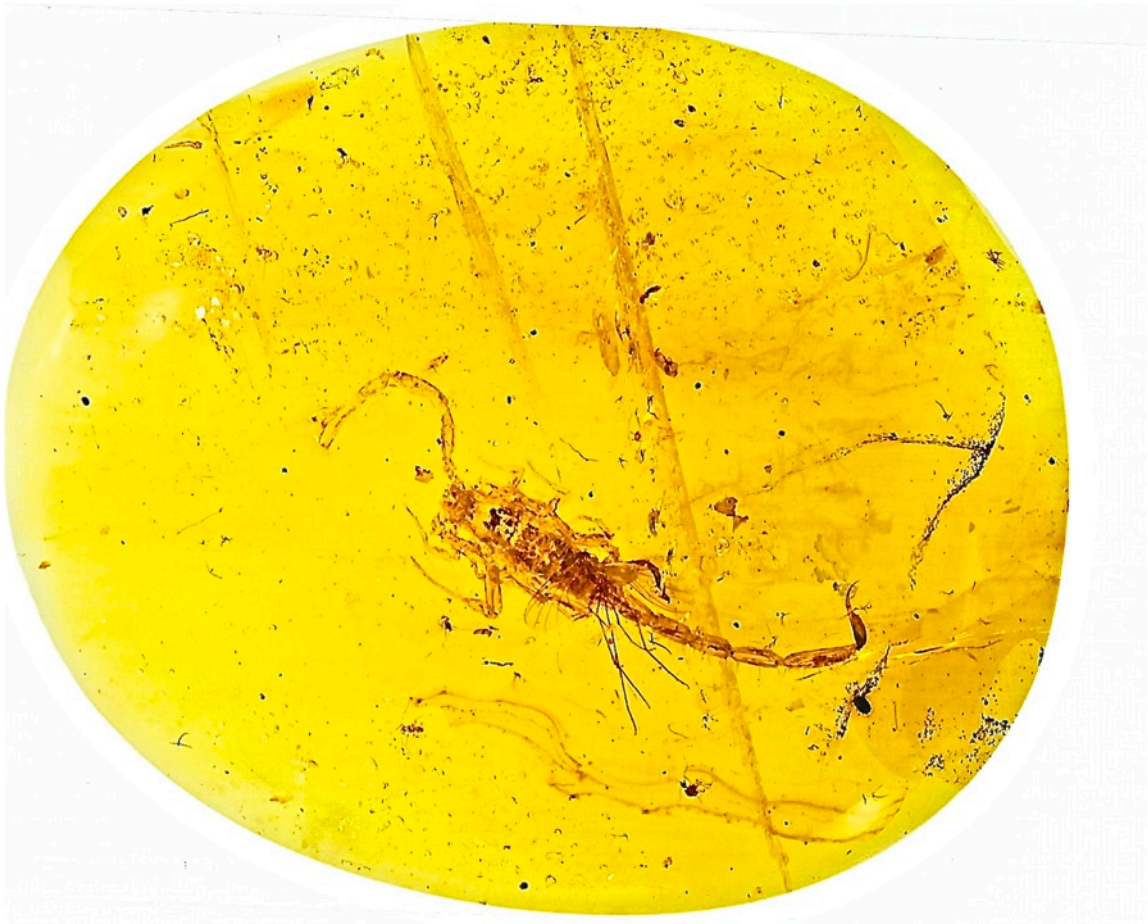

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One more new species of *Betaburmesebuthus* Lourenço, 2015 trapped in Burmite (Scorpiones: Palaeoburmesebuthidae)

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Keywords:

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Betaburmesebuthus;
groehni;
fossil;
new species;
description;
Cretaceous;
Myanmar;
Burmite.

Abstract. – One more new species of fossil scorpion belonging to the genus *Betaburmesebuthus* Lourenço, 2015, is described from the Cretaceous amber of Myanmar (Burma). The new species is characterized by a combination of several morphological features and in particular a strongly elongated carapace with large median eyes, a conspicuous granulation on the telson and an aculeus enlarged at its base, and the absence of any major granulations or apophysis in both femur and patella of pedipalps. The description of the new species confirms, once again, that the genera of the family Palaeoburmesebuthidae are most certainly the most speciose among those found in the Burmese amber-producing forests.

Lourenço W. R. & Velten J., 2025. – One more new species of *Betaburmesebuthus* Lourenço, 2015 trapped in Burmite (Scorpiones: Palaeoburmesebuthidae). *Faunitaxys*, 13(57): 1 – 4.

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Introduction

As previously discussed in several publications (see Lourenço, 2023; Lourenço & Velten, 2023, 2025), scorpions are yet considered rare among the fossil arthropods found trapped in amber. The first element to be described from Myanmar Cretaceous amber belonged to the family Palaeoburmesebuthidae Lourenço, 2015, and in subsequent years the elements of this family proved to be one of the most speciose groups among those present in Burmite (Lourenço, 2023; Lourenço & Velten, 2025). Among the known genera of this family, *Betaburmesebuthus* Lourenço, 2015 is unquestionably, the most speciose and the description of new species becomes more and more a delicate matter requiring the study of specimens in very good conditions of preservation. Some additional propositions will be the subject of another study (Lourenço, in preparation). In this contribution a new studied specimen of *Betaburmesebuthus*, fulfilling these conditions, is described as a new species, confirming once again the high degree of scorpion diversity in the Burmese amber-producing forests (Lourenço, 2023; Lourenço & Velten, 2023, 2025).

Material and methods

The specimen investigated is preserved in a relative clear oval to almost round piece of yellow amber that measures 23.4 x 20 x 2.2 mm. The scorpion is complete; however, some characters are not clearly visible since the presence of inclusions such as vegetal debris can prevent a precise observation. Other syninclusions comprise some small insects; bubbles are also present but do not disturb majorly the observations. Consequently, an important number of characters are visible and allow detailed investigation. The schematic drawings provided are an interpretation of what was observable. Illustrations and measurements were produced with the aid of a Wild M5 stereomicroscope equipped with a drawing tube (camera lucida) and an ocular micrometre. Measurements follow Stahnke (1970) and are given in mm. Trichobothrial notations follow Vachon (1974) and morphological terminology mostly follows Hjelle (1990). Trichobothria were definitely recorded only when their bothria (areoles) could be observed.

Taxonomic treatment

Superfamily **Buthoidea** C. L. Koch, 1837

Family **Palaeoburmesebuthidae** Lourenço, 2015

Genus ***Betaburmesebuthus*** Lourenço, 2015

Betaburmesebuthus groehni Lourenço **sp. n.**

(Fig. 1-10)

ZooBank: https://zoobank.org/ACA37389-9D3C-477C-9D03-62525E23ECD2

Holotype: A juvenile, or possible pre-adult; sex: most certainly a male.

Diagnosis. – General morphology is globally similar to that of other species of the genus *Betaburmesebuthus* Lourenço, 2015. The following combination of characters can, however be used to diagnose the new species: (I) Carapace with an important elongation, much longer than wide; weakly granulated; anterior

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margin with a weakly to moderately marked median concavity; median eyes very large in size and separated by less than one ocular diameter; three conspicuous lateral eyes. (II) Tergites with one moderate median carina; the lateral carinae are weakly marked; sternites less well observed but with small rounded spiracles. (III) Metasomal segments I and II with 10 carinae; III and IV with 8 carinae; dorsal carinae on segments III and IV with minor spinoid granules; setation on all metasomal segments weakly marked. (IV) Telson elongated with conspicuous ventral granules forming one carina; two other lateral carinae equally present; base of aculeus slightly enlarged. (V) Internal faces of femur and patella with some minor spinoid granules; fixed and movable fingers of pedipalp chela with a series of small rounded granules and a few conspicuous spinoid accessory granules. (VI) Trichobothrial pattern conforming with the extant buthid type A (Vachon, 1974); femur with 4 internal, 5 dorsal and 2 external trichobothria; trichobothria $\mathbf{d_1}$, $\mathbf{d_3}$ and $\mathbf{d_5}$ disposed in the almost the same line; dorsal trichobothria disposed in beta (β) configuration (Vachon, 1975); patella with 1 internal and 5 dorsal trichobothria; several external trichobothria can be suggested on patella by the presence of fine setae; chela-hand with 6 dorso-external and 2 ventral trichobothria; 7 on fixed finger, including one internal. (VII) Legs and spurs not well observable; if present, spurs are extremely reduced.

Type locality and horizon. – Myanmar (Burma), most certainly Kachin; Lower Cretaceous.

Patronym. – The specific name honors Dr Carsten Gröhn (Glinde, Germany); as a token for his support to the present study.

Depository. – The type specimen is deposited in the Collections of the Geologisch-Paläontologisches Institut of the University of Hamburg, Germany under the number GPIH 5243.

Description

Coloration. – The scorpion is globally yellow to pale yellow; carapace and tergites yellow; metasomal segments slightly dark-yellow; telson yellow; pedipalps dark-yellow; legs yellow. Ventral aspect yellow.

Morphology. – Carapace much longer than wide; weakly granular, almost smooth; anterior margin with a weakly to moderately marked median concavity. Carinae inconspicuous; furrows weak. Median ocular tubercle clearly anterior to the centre of carapace; median eyes very large in size and separated by less than one ocular diameter. Three pairs of lateral eyes of moderate size. Sternum subpentagonal. Mesosomal tergites weakly granular, with one moderate median carina; lateral carinae weakly marked; VII with five moderately marked carinae. Pectines long and enlarged with 20-21 teeth; fulcra inconspicuous. Sternites almost smooth with small round spiracles. Metasomal segment I to IV with 10-10-8-8 carinae; dorsal on III and IV with vestigial spinoid granules; segment V slender with five carinae; dorsal aspect of segments I to V weakly depressed; setation on all segments weakly marked. Telson with a long pear-shaped vesicle; aculeus long and curved at the extremity and weakly enlarged at the middle; setation weakly marked. Cheliceral dentition only partially visible; distal teeth moderately long; fixed finger with one basal tooth (Vachon, 1963).

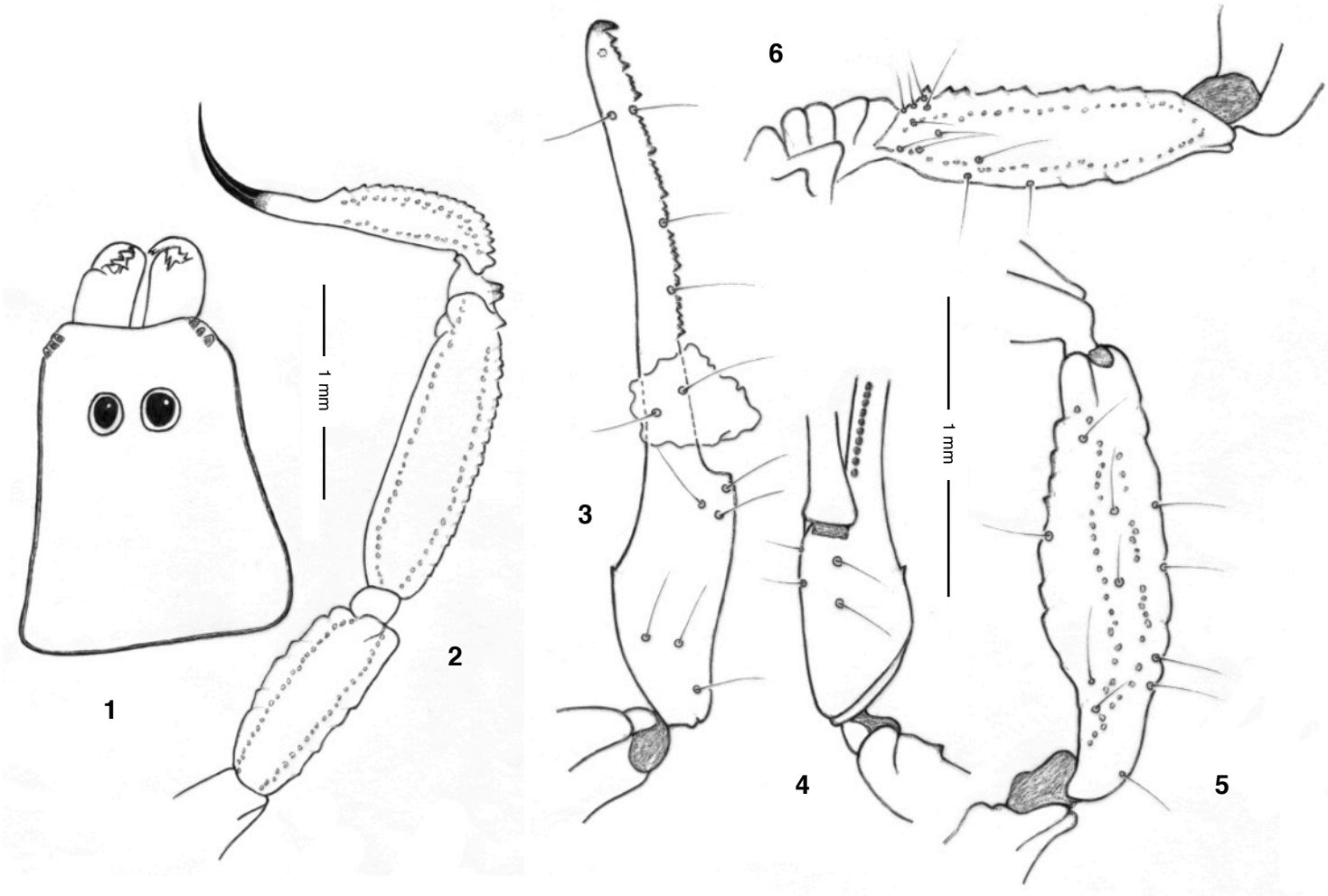

Fig. **1**-**6**. *Betaburmesebuthus groehni* Lourenço **sp**. **n**. Male holotype.

1. Carapace with a very elongated shape and the presence of two very large median eyes and three lateral eyes. **2**. Metasomal segments IV-V and telson, lateral aspect; to notice the small enlargement at the base of the aculeus. **3**-**6**. Trichobothrial pattern of right pedipalp. **3**-**4**. Chela manus and fingers, dorso-external and ventral aspects. **5**. Patella, dorsal aspect. **6**. Femur, dorsal aspect.

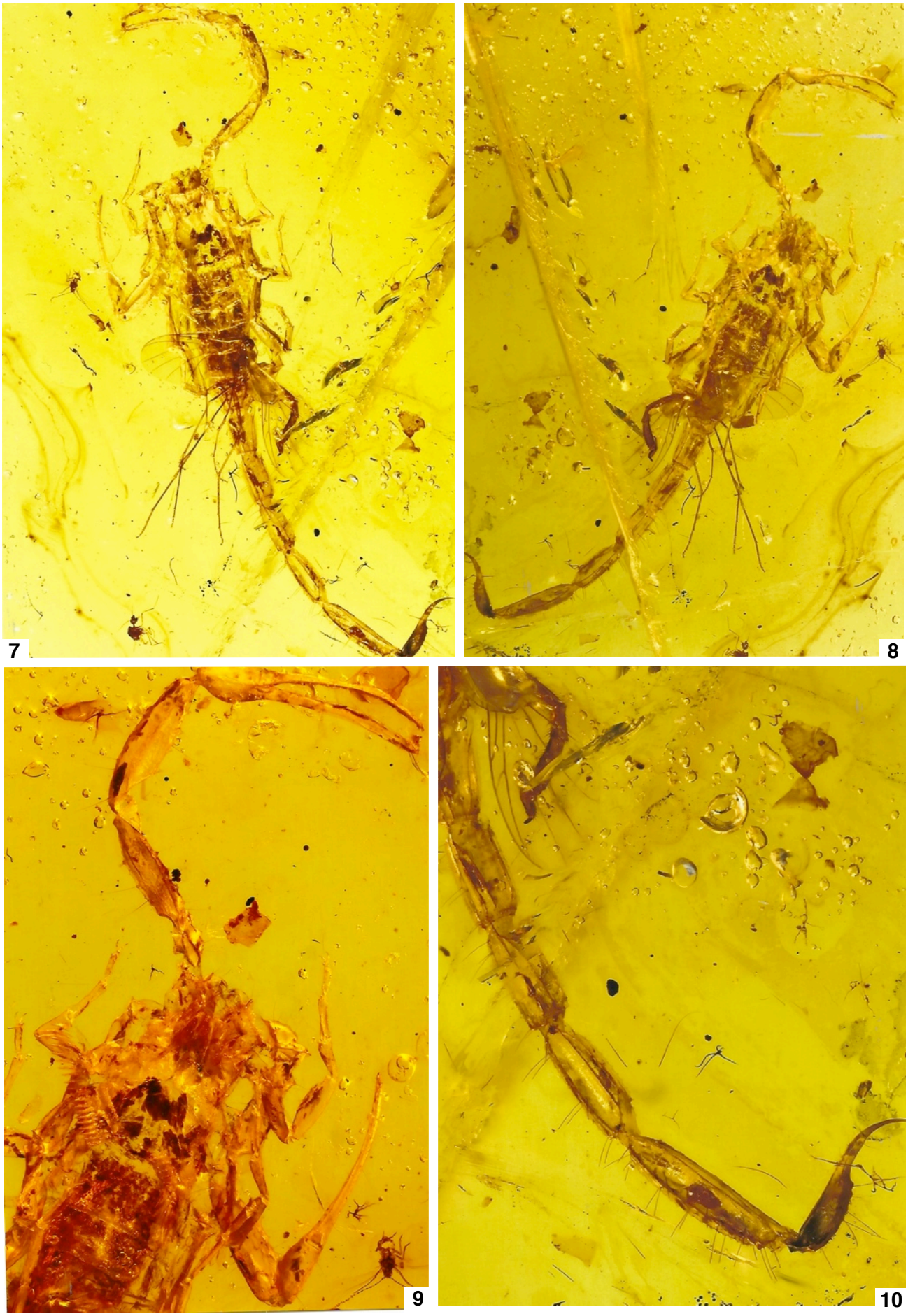

Fig. **7**-**10**. *Betaburmesebuthus groehni* Lourenço **sp**. **n**. Male holotype.

7-**8**. Habitus, dorsal and ventral aspects. **9**. Ventral aspect in detail, showing pectines. **10**. Metasomal segments II-V and telson in detail, lateral aspect.

Pedipalp femur pentacarinate; patella with 6-7 carinae; internal face of femur and patella without any strong spinoid granule. Chela with minor carinae; all faces not granular. Fixed and movable fingers each with one series of small rounded granules and a few conspicuous spinoid accessory granules; extremity of fingers with stronger spinoid granules; setation of pedipalps almost absent. Trichobothriotaxy type A (Vachon, 1974), as for extant buthids; see diagnosis for details; dorsal trichobothria disposed in beta (β) configuration (Vachon, 1975). Legs and spurs not clearly observable; spur possibly reduced.

Morphometric values (mm), holotype of *Betaburmesebuthus groehni* Lourenço **sp**. **n**.

– ***Total length*** 11.92 (including telson).

– ***Carapace***
length 1.54,
anterior width 0.79,
posterior width 1.12.

– ***Mesosoma*** length 2.81.

– ***Metasomal segments***
I: length 0.81, width 0.47;
II: length 0.94, width 0.41;
III: length 1.10, depth 0.41;
IV: length 1.42, depth 0.41;
V: length 1.75, depth 0.35.

– ***Telson*** length 1.55.

– ***Vesicle*** depth 0.27.

– ***Pedipalp***
femur length 1.10, width 0.35;
patella length 1.41, width 0.41;
chela length 2.27, width 0.38;
movable finger length 1.61.

Relationships. – The elongated shape of the carapace and the high number of teeth on the pectines seem to associate the new species with *Betaburmesebuthus fleissneri* Lourenço, 2016. However, both species can be distinguished by the following features: the new species presents particularly large eyes; the telson shows a conspicuous granulation and both the femur and patella of pedipalps lack any major spinoid granules or apophysis which are present in *B. fleissneri*.

Acknowledgements

We are most grateful Alexander Beigel (Aachen, Germany) for the preparation of several of the photos which illustrated the new species.

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Authors contribution [1]

Publisher Correspondence. – WL
Writing the article. – WL
Description. – WL
Article proofreading. – WL
Bibliographic work. – WL
Material study. – WL & JV
Author of the figures. – WL (Fig. 1-6)

[1] **WL** = Wilson R. Lourenço – **JV** = Jürgen Velten

Résumé

Lourenço W. R. & Velten J., 2025. – Encore une nouvelle espèce appartenant au genre *Betaburmesebuthus* Lourenço, 2015 retrouvée dans l'ambre Crétacé de Myanmar (Scorpiones : Paleoburmesebuthidae). *Faunitaxys*, 13(57): 1 – 4.

Encore une nouvelle espèce de scorpion fossile appartenant au genre *Betaburmesebuthus* Lourenço, 2015, est décrite de l'ambre Crétacé de Myanmar. La nouvelle espèce est caractérisée par un ensemble de structures morphologiques distinctes et en particulier par la présence d'une carapace prosomienne très allongée avec des gros yeux médians, un telson avec une granulation bien marquée et l'aiguillon quelque peu dilaté à sa base, et une absence de granules spiniformes ou apophyses aussi bien sur le fémur que le tibia des pédipalpes. La description de la nouvelle espèce confirme une fois de plus que les genres de la famille des Palaeoburmesebuthidae sont certainement parmi les plus riches en espèces entre ceux retrouvés dans l'ambre Crétacé de Myanmar.

Mots-clés. – Scorpion, *Betaburmesebuthus*, *groehni*, fossile, nouvelle espèce, description, Crétacé, Myanmar.

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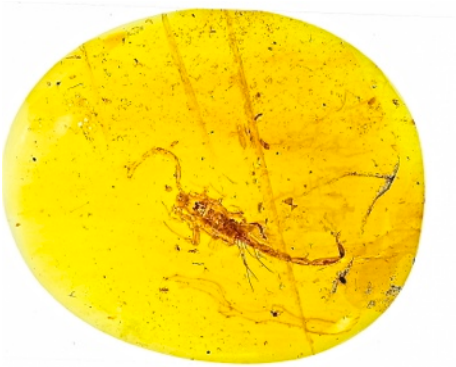

Illustration de la couverture :

Betaburmesebuthus groehni Lourenço **sp**. **n**. in the stone (piece of amber).

Crédits:

Wilson R. Lourenço : Fig. 1-6.

Alexander Beigel : Fig. 7-10 & couverture.

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